Concept for Active Post-Launch Degaussing of Submarine Hulls Using Hyper-Local Coulomb Liquefaction

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Introduction

The potential for orbital platforms to be utilized to purposefully magnetize the hulls of sub-surface vessels between pre-launch degaussing and submersion (a period of several hours of vulnerability, at minimum) creates a tactical vulnerability which could result in the revelation of the position of friendly sub-surface platforms.

Abstract

Although there is little avoiding utilizing large quantities of iron in the building of ships, alloying iron with other materials can be used to great effect to mitigate or eliminate the property of ferromagnetism of the material. However, incorporating alloying materials can increase cost and does not entirely eliminate the ferromagnetic properties of iron.

Although it has been proposed that a magnetism-blocking meta-material be added-on to existing vessels in order to block any magnetism, effecting the adhesion of these materials hulls which are already coated with a Teflon-based material meant to prevent the agglomeration of organic detritus which can lead to unwanted to cavitation makes this impractical. Because the existing vessels are designed to permit nothing to stick to their exterior, we cannot add materials to the exterior of the vessels.

However, one of my own previous proposals for room-temperature smelting using Coulomb Force Lines may be used in order to effect degaussing on an active basis.

When ferromagnetic materials are dropped or struck with a hammer, they can become permanently degaussed. Ultimately, it is phononic energy which brings about a re-ordering of the relative physical position of atoms. The generation of acoustic energy within the hull of a submarine would be undesirable. A method is required for eliminating magnetism within a magnetized hull without emitting any detectable form of energy.

In my proposal of 22 February 2024, I suggested that we might bring about a rhomboidification of cubic metals by projecting rapidly alternating Coulomb Force Lines via collocated crystalline layers to support low-cost, low-temperature smelting for construction. It stands to reason that if we can render a metal a liquid by changing its molecular structure through the Coulomb Force, we can also eliminate magnetization which may have accumulated either naturally or through malice in a submarine’s hull. If this effect is applied only hyper-locally, the hull should, at shallow depths, tolerate the liquefaction without permitting seawater to enter the vessel.

Conclusion

As per 22 February 2024, once a material is rendered a liquid, it is necessarily also degaussed. A system capable of degaussing the hull of a vessel from the interior through such a process could also help to seal minor hull breaches as it permits materials from the surrounding areas to be liquefied and thus transported in order to fill the gap created by the breach. The same concept could have application in the area of self-healing materials such as electronics or in the materials of which roads are composed which are often prone to attrition.